6LQ6

Beam Power Tube

Pb = 30 W **Novar Type** **Overload Pb = 200 W**

For Color-TV Horizontal-Deflection Amplifier Circuits Using 270 V to over 400 V "B" Supplies

ELECTRICAL CHARACTERISTICS—Bogey Values

Heater Voltage, ac or dc	E_h	6.3	V
Heater Current	I_h	2.5	A
Direct Interelectrode Capacitances:[a]			
Grid No.1 to plate	$c_{g1\text{-}p}$	0.56	pF
Input: G1 to (K,G3,G2,H)	c_i	22	pF
Output: P to (K,G3,G2,H)	c_o	11	pF

For the following characteristics, see Conditions below:

Amplification Factor (Triode Connection)[b]	μ	-	-	3[c]	-	-	2.8[d]	
Plate Resistance (Approx.)	r_p	-	-	5800	-	-	7000	Ω
Transconductance	g_m	-	-	9600	-	-	7500	μmho
DC Plate Current	I_b	-	580[e]	130	-	710[e]	95	mA
DC Grid-No.2 Current	I_{c2}	-	40[e]	2.8	-	55[e]	2.4	mA
Cutoff DC Grid-No.1 Voltage for I_b = 1 mA	$E_{c1(co)}$	-120	-	-54	-125	-	-60	V
Conditions:								
Heater Voltage	E_h	←		6.3			→	V
Peak Positive-Pulse Plate Voltage[f]	e_{bm}	5000	-	-	5000	-	-	V
DC Plate Voltage	E_b	-	55	175	-	60	175	V
DC Grid-No.3 Voltage	E_{c3}	30	30	30	30	30	30	V
DC Grid-No.2 Voltage	E_{c2}	125	125	125	145	145	145	V
DC Grid-No.1 Voltage	E_{c1}	-	0	-25	-	0	-35	V

MECHANICAL CHARACTERISTICS

Dimensional Outline . . . . JEDEC No.12-117

Envelope . . . . JEDEC Designation T12

Top Cap[g] . . . . Small (JEDEC Designation C1-1)

Base[h] . . . . Large-Button Novar 9-Pin with Exhaust Tip (JEDEC Designation E9-88)

Terminal Connections (See *TERMINAL DIAGRAM*) . . . . JEDEC Designation 9QL

Type of Cathode . . . . .Coated Unipotential

MAXIMUM RATINGS—Design-Maximum Values[k]

For operation as a Horizontal-Deflection-Amplifier Tube in a 525-line, 30-frame system

Parameter	Symbol	Value	Unit
DC Plate Supply Voltage	E_{bb}	990	V
Peak Positive-Pulse Plate Voltage[m]	e_{bm}	7500	V
Peak Negative-Pulse Plate Voltage	$-e_{bm}$	1100	V
DC Grid-No.3 Voltage[n]	E_{c3}	75	V
DC Grid-No.2 (Screen-Grid) Voltage	E_{c2}	220	V
Peak Negative-Pulse Grid-No.1 (Control-Grid) Voltage	$-e_{c1m}$	330	V
Heater-Cathode Voltage:			
Peak	e_{hkm}	±200	V
Average	E_{hk}	100	V
Heater Voltage, ac or dc	E_h	5.7 to 6.9	V
Cathode Current:			
Peak	i_{km}	1200	mA
Average	$I_{k(av)}$	350	mA
Grid-No.2 Input	P_{g2}	5	W
Plate Dissipation[p]	P_b	30	W
Temporary Overload Plate Dissipation[q]	P_b	200	W
Envelope Temperature (at hottest point on envelope surface)	T_E	250	°C

MAXIMUM CIRCUIT VALUES

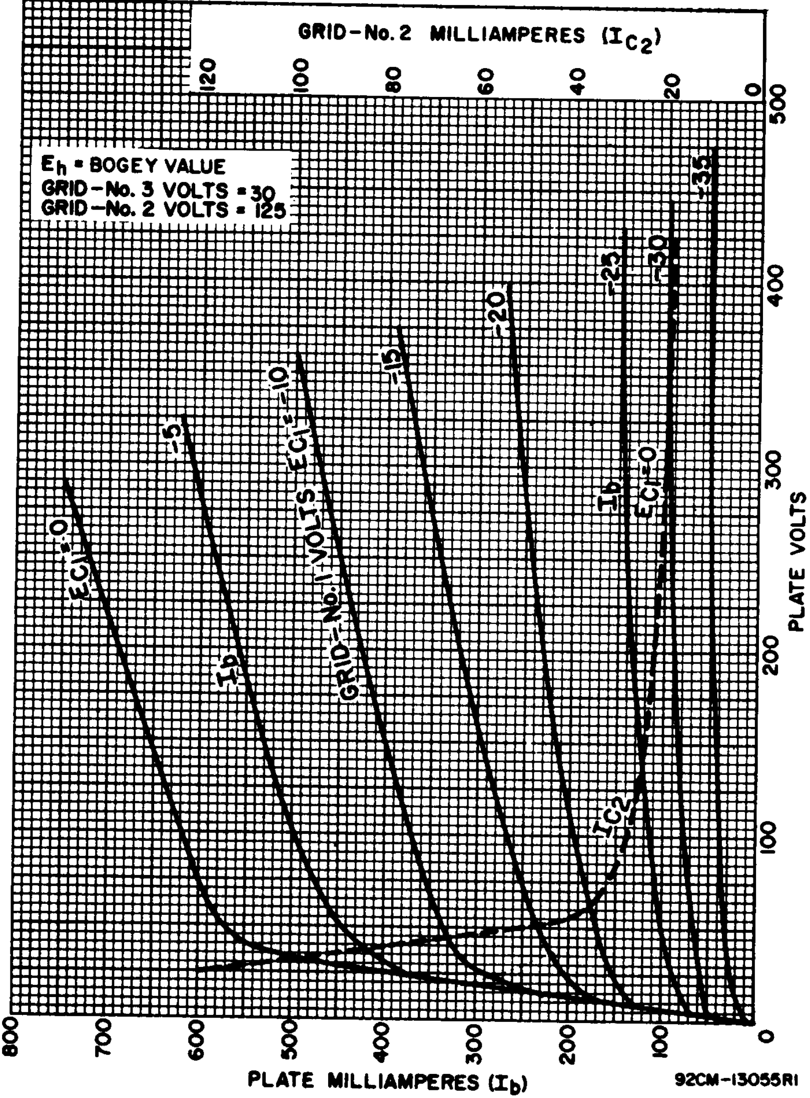
Parameter	Symbol	Value	Unit
Grid-No.1-Circuit Resistance:	$R_{g1(ckt)}$		
For grid-No.1-resistor-bias operation	-	0.47	MΩ
For plate-pulsed operation (horizontal-deflection circuits only)	-	10	MΩ

TERMINAL DIAGRAM (Bottom View)

Pin 1 - Grid No.2
Pin 2 - Grid No.1
Pin 3 - Cathode
Pin 4 - Heater
Pin 5 - Heater
Pin 6 - Grid No.1
Pin 7 - Grid No.2
Pin 8 - Grid No.3
Pin 9 - Do Not Use
Top Cap - Plate

9QL

TYPICAL CHARACTERISTICS



[a] Measured without external shield in accordance with the current issue of EIA Standard RS-191.

[b] With grid No.3 and grid No.2 connected, respectively, to cathode and plate at socket.

[c] Conditions: $E_b = E_{c2} = 125$ V, $E_{c1} = -25$ V.

[d] Conditions: $E_b = E_{c2} = 145$ V, $E_{c1} = -35$ V.

[e] This value can be measured by a method involving a recurrent waveform such that the Maximum Ratings of the tube will not be exceeded.

[f] Under pulse-duration condition specified in *Footnote* m.

[g] Designed to mate with connector of 0.360-inch cap, generally available from your local RCA Distributor.

[h] Designed to mate with "Novar 9-Contact" Socket generally available from your local RCA Distributor.

[k] As defined in the current issue of EIA Standard RS-239.

[m] This rating is applicable when the duration of the voltage pulse does not exceed 15% of one horizontal scanning cycle. In a 525-line, 30-frame system, 15% of one scanning cycle is 10 μs.

[n] In horizontal-deflection-amplifier service, a positive voltage should be applied to grid No.3 to reduce interference from "snivets", which may occur in both vhf and uhf television receivers, and to increase power output. A typical value is 30 V.

[p] An adequate bias resistor or other means is required to protect the tube is the absence of excitation.

[q] Total continuous or accumulated time not to exceed 40 seconds.

TYPICAL CHARACTERISTICS

